

	Safety Data Sheet	Doc.No.: MSC-SDS-560
		Date of Issue: Jun.01.2012
	MIRAMER PU3201NT	Date of Rev.: Oct.23.2017
		Rev.No: 5

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance or preparation	MIRAMER PU3201NT
Use of the Substance/Preparation	Resins of Coating & Ink
Company/undertaking Identification	MIWON SPECIALTY CHEMICAL CO., LTD. 167, WANJUSANDAN 1-RO, BONGDONG-EUP, WANJU-GUN, JEOLLABUK-DO, 55323, KOREA
Emergency telephone	Tel +82-63-260-1500, Fax +82-63-261-6734

2. HAZARDS IDENTIFICATION

GHS Classification

Skin Corrosion / Irritation Hazard Category	2
Serious Eye Damage / Irritation Hazard Category	2
Skin Sensitization Hazard Category	1

GHS Labeling



GHS Signal Word: Warning

Hazard Statement:

H315	Causes skin irritation
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation

Precautionary Statements:

Prevention

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash contaminated skin thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

P321	Specific treatment-refer to supplemental first aid instructions.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P332+P313	If skin irritation occurs: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.

Disposal

P501 Dispose of contents/container in accordance with national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Urethane acrylate	HPMA
Synonyms	-	-
CAS No	Proprietary	27813-02-1
Composition	65%	35%

4. FIRST AID MEASURES

Eye Contact

Rinse immediately with plenty of water for at least 15 minutes or until the chemical has been removed. Obtain medical attention immediately.

Skin Contact

Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

Ingestion

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use water spray, carbon dioxide or dry chemical to extinguish fires.

Special Hazards

Keep containers cool by spraying with water if exposed to fire.

Protective Equipment

Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Wear approved respirator, protective clothing and equipment suitable for level of exposure.

Environmental Precautions

Avoid release to the environment.

Methods for Cleaning up

Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Remove sources of ignition.

7. HANDLING AND STORAGE

Handling

Keep away from heat, flame, spark and other igniter.

To facilitate product transfer from original container, product may be heated to 60°C for not more than 24 hours. Do not use direct steam or band heaters to heat product. Hot boxes or hot rooms are recommendable for heating the product.

Open and handle receptacle with care.

Wear appropriate protective equipment when handling this material.

Storage

Store at 5~30°C.

Store in tightly closed containers in a properly vented storage area away from direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limit(s)

Permissible Exposure Limits (PELs): N.A

Threshold Limit Values (TLVs): N.A

Engineering Measures

Utilize a closed system process where feasible. Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure.

Respiratory Protection

Avoid breathing processing vapor or mist. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components (full facepiece recommended). Consult respirator manufacturer to determine appropriate type equipment for a given application.

For spray applications, a NIOSH certified respirator with an APF of 1000 is required. For all other means of application, a NIOSH certified respirator with an APF of 50 is required. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Eye Protection

Prevent eye and skin contact. Provide eye wash fountain and safety shower in close proximity to points of potential exposure. Wear eye/face protection such as chemical splash proof goggles or face shield.

Skin Protection

Prevent contamination of skin or clothing when removing protective equipment. Wear impermeable gloves and suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid
Odor	Characteristic odor
Odor threshold	No data
pH	No data
Melting Point/Freezing Point	No data
Boiling Point	No data
Flash Point	70 °C
Evaporation Rate	No data
Flammability	No data
Flammable Limits	No data
Vapor Pressure	No data
Solubility in Water	Insoluble
Vapor density(water=1)	No data
Density	1.16 @25 °C
n-Octanol/Water Partition coefficient	No data
Autoignition Temperature	No data
Decomposition Temperature	No data
Viscosity	18,700cps @25 °C
Molecular Weight	11,000

10. STABILITY AND REACTIVITY

Stability

Stable at normal temperature and pressure.

Hazard Reactions

Polymerization.

Conditions to Avoid

Avoid contact with heat, flame, spark and other igniter.

Avoid contact with free radical initiators. Avoid contact with isocyanates and oxidizing agents.

Avoid contact with vinyl polymerization initiators. Hazardous polymerization can occur when exposed to direct sunlight. Hazardous exothermic polymerization can occur when heated.

Uncontrolled polymerization may cause rapid evolution of heat and increase in pressure that could result in violent rupture of sealed storage vessels or containers.

Material to Avoid

Radical forming initiators, peroxides, strong alkalies or reactive metals to prevent exothermic polymerization.

Hazard Decomposition Products:

Oxides of carbon

11. TOXICOLOGICAL INFORMATION

	Urethane acrylate	HPMA
Acute Toxicity Data		
Oral	No data	LD50 > 2000 mg/kg Rat
Dermal	No data	LD50 > 5000 mg/kg Rabbit
Inhalation	No data	No data
Skin Corrosion / Irritation	Irritating	Not irritating
Serious Eye Damage / Irritation	Irritating	Irritating
Respiratory Sensitization	No data	Guinea pig In animal experiments the substance shows low resp. no ability as a sensitizer.
Skin Sensitization	No data	There are indication of a sensitizing effect of the substance in man.
Carcinogenicity	No data	No data
Germ cell mutagenicity	No data	Negative
Reproductive toxicity	No data	No indication of toxic effects were observed in reproduction studies in animals.
Specific target organ toxicity	No data	No data
Aspiration hazard	No data	No data

12. ECOLOGICAL INFORMATION

	Urethane acrylate	HPMA
Ecotoxicity	No data	LC50 493 mg/l 48 h, Fish EC50 380 mg/l 48 h, Daphnia magna
Persistence and degradability	No data	No data
Bioaccumulative potential	No data	No data
Mobility	No data	No data
Other adverse effects	No data	No data

13. DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with local and national regulations.

14. TRANSPORT INFORMATION

UN Number	Not applicable
Proper Shipping Name	Not applicable
Transportation Class	Not applicable
Packing Group	Not applicable
Marine Pollutant	Not applicable

15. REGULATORY INFORMATION

Inventory Information

Australia(AICS)	Not Listed
China(IECSC)	Not Listed
Canada(DSL)	Not Listed
Europe(EINECS)	Polymer
Japan(ENCS)	Listed
Korea(ECL)	Listed
New Zealand(ERMA)	Listed
USA(TSCA)	LVE
Taiwan(TCSI)	Not Listed

CALIFORNIA PROPOSITION 65:

This product does not contain any substances known to the state of California to cause cancer and/or reproductive toxicity.

SARA 313 Information:

This product does not contain toxic chemical subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372)

16. OTHER INFORMATION

Reference

- Korea Occupational Safety&Health Agency (KOSHA)
- National Chemicals Information System (NCIS)
- European Chemical Agency(ECHA)

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Reasons for Revision	Revision of section 1, 2, 8, 15.